

MR. L. G. ADAMS,  
HERBARIUM AUSTRALIENSE,  
C.S.I.R.O.,  
P.O. BOX 1600,  
CANBERRA CITY, A.C.T. 2601.



asbs  
newsletter



AUSTRALIAN SYSTEMATIC BOTANY NEWSLETTER

Newsletter No. 5

July 1975

A.S.B.S. Council

President	Dr. Trevor Whiffin, Department of Botany, La Trobe University, Bundoora, Victoria. 3083.
Vice-President	Mr. Rod Henderson, Queensland Herbarium, Meiers Road, Indooroopilly, Queensland. 4068.
Secretary	Mrs. Karen Wilson, National Herbarium, Royal Botanic Gardens, Sydney. 2000.
Treasurer	Mr. Mike Lazarides, Herbarium Australiense, C.S.I.R.O., P.O. Box 1600, Canberra City, ACT 2601.
Councillors	Mr. Jim Armstrong, National Herbarium, Royal Botanic Gardens, Sydney. 2000. Mr. Alex George, Western Australian Herbarium, Department of Agriculture, Jarrah Road, South Perth, Western Australia. 6151.

This publication, the official newsletter of the Society, is produced three times each year and deadlines for copy are 20th February, 20th June and 20th October. The editor is pleased to receive any articles or newsworthy items from any source for incorporation with acknowledgement in the newsletter.

Rod Henderson  
Editor (address above)

## AUSTRALIAN SOLANUM SPECIES AS A BASIS FOR THE STEROID DRUG INDUSTRY

J.M. Swan

Pro-Vice Chancellor, Monash University, Victoria

One of my current research interests in the Chemistry Department is a survey of the Australian *Solanum* species for their content of solasodine and related alkaloids as possible starting materials for the manufacture of a wide range of steroidal drugs, including oral contraceptive agents, corticoids and sex hormones. This project is supported by the Rural Credits Fund of the Reserve Bank.

*Solanum* steroidal alkaloids such as solasodine can be converted by chemical means into a wide range of useful hormonal steroids. An Australian plant, *Solanum laciniatum* Ait., is cultivated commercially in Russia and Eastern Europe for this purpose. Most of the western world's supply of steroid drugs is obtained from diosgenin which is obtained from certain species of *Dioscorea* found principally in Mexico. The *Dioscorea* yam is a rich source of diosgenin, but the plant takes several years to mature. This leads to problems of cultivation and it appears that the demand for diosgenin might soon outstrip the supply. Interest in the production of steroids from solasodine has in consequence extended beyond Eastern Europe and Russia and our survey of the indigenous Australian *Solanum* species is part of this awakened interest.

There are about 80 described indigenous *Solanum* species in Australia. Until recently only about 10 of these had been subjected to careful chemical examination. In our systematic survey of *Solanum* plants for their content of solasodine and related steroidal alkaloids we had, prior to my period of field work examined the leaf, stem and where available the fruit of 48 native, 8 introduced and 4 unidentified *Solanum* plants. In this partial survey of 61 species we had found steroidal alkaloids to be absent in 41 species, present in less than 0.1% in 5 species, in the range of 0.1%-0.3% in 8 species, in the range 0.3%-1.0% in 4 species and in greater than 1% concentration in 3 species. One species not previously examined had been found to contain 2.6% of alkaloids closely related to but different from solasodine. For commercial utility, at least 2% (dry weight) of steroid is probably necessary. The steroid content of a given species can vary by a factor of 10 or more for both genetic and environmental reasons. Plants which show at least 0.3% of total steroidal material are therefore considered to be worthy of intensive study.

I spent a short period of study leave, June to August 1974, searching for as-yet-untested species of *Solanum* in New South Wales and Queensland. The trip was very rewarding; I sent back to Monash for testing, 113 *Solanum* specimens, including 7 species which we had not previously analysed, and fruits of a further 10 species of which we had examined only leaf and stem. Near the Embly River on Cape York Peninsula I found several large plants of *Solanum dunalianum*, a species which had not previously been recorded in Australia. (The plant has been described for New Guinea and the Solomon Islands.)



Very profitable trips were undertaken to the D'Aguilar Range north-west of Brisbane, to Levers Plateau on the Queensland-N.S.W. border and to Mt. Dryander near Proserpine. Extensive collections were also made in the Mt. Isa area and on the Atherton Tablelands and country further west from Cairns. My most northerly point of call was at Weipa on the far north-west of Cape York Peninsula.

I was able to spend two days exploring on the eastern side of Cape York, around Iron Range and Portland Roads; this was made possible by the provision of a light aircraft by Comalco complete with a guide, a large and reliable motorbike, petrol, food and camping gear. I found two *Solanum* plants in rain forest near the Iron Range airport; one is possibly *S. macoorai* and the other may yet prove to be a new species.

The bulk of my travelling was done by train with frequent stopovers at points of botanical interest.

North Queensland is a part of Australia that deserves an essay in itself. There is no doubt that it is "different" from the rest of Australia as recent political events have shown. However, there should be no need to apologise for social, cultural and environmental diversity. A society in which people of widely different tastes, interests and philosophies can live in harmony will be characterised by diversity in personal life styles and value judgements; Queensland is increasingly becoming such a society. The contrasts between Brisbane, Proserpine, Townsville, Mt. Isa, Camooweal, Cairns, Mt. Surprise and Weipa are really astonishing. Perhaps the only feature they have in common is the presence of one or more species of *Solanum*.

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In the face of a rapidly expanding world population there is now an increased awareness of the finite nature of the world's resources, especially of high grade ores, hydrocarbon fuels and land suitable for agriculture. In the context of food and energy, efficiency is surely a desirable aim, but diversity is a better safeguard against an unknown and uncertain future. While the highly efficient, high-yielding strains of wheat, rice, maize and sugar-cane are the logical choice for a world close to starvation, the loss of diversity that accompanies genetic selection for a single attribute such as high yield increases the risk that slight changes in the environment could lead to massive crop failures. Highly bred plants can grow rapidly and yield a bountiful harvest but they are more susceptible to disease, to insect attack and to changes in climate than the "wild" types from which they are derived. Diversity in the ecosystem provides strength and stability; as we move from diversity to homogeneity, our plants, animals and social institutions are increasingly at risk.

There is perhaps a lesson here for universities. Knowledge and understanding, the getting of wisdom, the hard mental disciplines of scholarship and research - these are what the university is all about.

I believe we would all hope to attract students to Monash who expect to gain interest, pleasure and satisfaction from their university studies. Students, moreover, who are ready to undergo demanding and meaningful forms of assessment to prove their academic worth, to demonstrate their mastery of a body of knowledge. For a university to be attractive in this way it must, above all, offer a rich diversity of ideas to its students and be prepared to accept a diversity of approaches to scholarship, learning and assessment, while safeguarding its high academic standards.

There is another aspect of education where the dichotomy between uniformity and diversity is important. Uniformity is often imposed on social systems in the name of equal opportunity. Equal opportunity for all is a praiseworthy goal but it would be a great pity if the desire to achieve equal opportunity produced a rigid and uniform school and university system that stultified experiment and innovation. At a time when Australia is embarking on a whole series of new initiatives in education such as free university places for all who qualify, pre-school education irrespective of means and major building programmes in the primary and secondary schools, it is important that uniformity (in the name of equal opportunity) should not overwhelm diversity.

*Reproduced in part from Professor Swan's study leave report with his kind permission. I'm sure the high ideals John holds for Monash should equally apply to other Australian Universities as well as to the Herbaria. What do you think? - Ed.*

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#### LIAISON BOTANIST AT KEW

Dr. Andrew Kanis leaves Canberra on 9th August and takes up duty at Kew on 1st September. He will be travelling via Indonesia (Bogor) and the Netherlands; although officially on leave during this period, he will undertake any special requests.

During the first half of 1976 he will be visiting European herbaria (detailed itinerary will be available later) and he will return to Australia via the United States, arriving back about the end of October 1976.

FLORA AUSTRALIENSIS

N. T. Burbidge

CSIRO Division of Plant Industry, Canberra

Inadequate as much of it is, there is, proportionally speaking, a greater amount of data available for the taxonomic botanist than there is for colleagues in related biological fields. Why then do we still not have a replacement for the classic *Flora Australiensis*? We cannot claim to be blameless but our chief handicap is the lack of personnel, the basic factor being the lack of funds to employ research workers and facilities for their activities. The situation is also complicated by our separation into independent State and Commonwealth units. Perhaps when - and if - a Biological Survey is established there will be provision for a proper coordination of effort and, not less important, for additional professional staff.

The staff required would include specialists in various categories - specialist taxonomists as monographers, as well as those specially suited for collaborative research in multi-disciplinary programmes and those skilled in the preparation of texts for floras. These last must be able to appreciate the needs of people outside narrow research limits.

What sort of texts should be produced? Let me emphasise that no one type will meet all our needs. Secondly it is time that the idea of a popular handbook for the flora of the whole of Australia should be recognised as completely impractical. Consider a moment - our higher plants alone number at least 20,000. If we cut a reference to each of these to a single line description we would have a book of more than 500 pages - hardly a slim volume to slip into a pocket. Which of us really wants to carry around on our visits to special places - the Australian Alps, Central Australia, the Stirling Range in W.A. - a heavy book which for the most part describes plants from Cape York Peninsula, the Kimberleys, etc.

The *Flora Europaea* is sometimes quoted as a possible example for a new Flora of Australia to follow, but even this, though it has "simple" descriptions, is not a handbook. It is still incomplete but already includes three cumbersome quarto volumes. It is, however, noticeable that where large numbers of taxa are involved the authors have had to use a range of technical terms, for example in the case of the key to the genera of the Cruciferae (Brassicaceae). For small groups of species, obvious features such as flower colour or leaf shape suffice to distinguish between the three or four species present but this is impossible with large groups. Consider for a moment the many species of *Grevillea* with red flowers. Let us remember that the genera *Eucalyptus*, *Acacia* *Grevillea* and *Leucopogon* each have more than 100 species and the first two more than 500. We must accept the fact that a work which attempts to provide identification for all of these must use technical diagnostic terms if the work is to be of acceptable standard.

It is my opinion that proper communication of data about the Australian flora must involve us both in the preparation of an authoritative national flora and also in the compilation of an extensive series of accounts of the plants of particular regions and of works written for some special purpose. On the one hand are State Floras and semi-technical works for State use and accounts of the plants of special areas or regions and on the other such books as tree identification manuals for foresters or weed books for agriculturalists. The range of publications needed cannot be obtained cheaply by trying to make one type meet all requirements.

Only a major work can provide a critical basis for floristic research on either a national or an international level. Phytogeographic or ecological research discussions which have to be based on local or restricted handbooks must suffer from the inevitable inconsistencies. Preparation of any Flora requires investigation of a wide range of technical information (quite apart from actual original analytic research). Once compiled, this data is of significance for many taxonomists but there is no place to record it in a handbook. The proper place is to include it as reference data in a national Flora - it can and should be omitted from handbook accounts, where in any case the need for technical language is reduced in parallel to the reduction of species to be accounted for. One cannot build a major Flora from a series of handbooks but the reverse procedure is much more readily carried out. Such a Flora will supply the data for regional treatments and enable their preparation in a comparatively brief period.

Unfortunately at present we have little hope of getting a national Flora for many years to come. Local State Floras are being prepared or being planned in a number of States. Though Australian taxonomists have been able to avoid gross duplication of research there has been little attempt to avoid overlap and duplication of effort in flora text preparation. This is to be regretted and will, I fear, result in a number of inconsistencies of nomenclature. It will also mean that in each State the taxonomists will be making the same searchings of the technical papers and hence there will be a repetition of effort.

Any attempt to channel all our efforts into a national scheme would be made extremely difficult by the problems arising from our State and Commonwealth employment responsibilities and commitments. One peculiarity of the present situation is that though most of our herbaria were established to meet the needs of communities in which the interests of primary producers received priority, the demands nowadays come from pressures resulting from environmental problems, i.e. from groups outside the immediate terms of reference of the departments which finance the herbaria. Thus not only do we need to consider research strategy in terms of a biological survey, we also need to review our research priorities in a range of interlocking government bodies.

Would the establishment of an Institute of Australian Flora and Fauna as recommended by the Report of the National Estate help to solve our problems? Maybe, but we need to think a great deal about the function



of such an Institute and whether it is to be separate from or replace the Biological Survey scheme. Could the research functions deemed appropriate for either or both of these, in fact, be as efficiently carried out by existing organisations - if these were provided with adequate funds? What should be the relationship between research institutes and repositories of biological collections? Should they be combined under one roof? These matters must all be considered.

I have said little about the importance of the research component in the work of a biological survey. This does not mean I do not regard it as important, but on this occasion I have chosen to lay particular emphasis on problems of communication. If what we produce is in a form understandable only by those within our own disciplines then in what way does the government gain by changing from the provision of research funds to provision of funds for a complex organisation? We must accept that unless reliable data can be produced and presented lucidly we shall be gravely disadvantaged in discussions on environmental problems. Furthermore, biological problems whether of an environmental or other nature are rarely of purely national significance. Thus for a whole range of reasons we need an organisation capable of permitting us to fulfil our roles as scientists both within Australia and internationally.

*Reproduced in part from a lecture entitled "An Australian Biological Survey or a Survey of Australian Biological Resources", with Dr. Burbidge's permission. - Ed.*

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#### REQUEST FOR MATERIAL

In connection with his taxonomic monograph of the genus *Picris* (Asteraceae), Dr. H.W. Lack (Botanische Abteilung, Naturhistorisches Museum, Burgring 7, Postfach 417, A-1014 WIEN, Austria) would be grateful for any specimens (herbarium material) of *Picris* and ripe fruits (not heat-dried and with herbarium voucher specimens) he could obtain from Australian localities. Also very young heads of flowers, fixed for chromosome counting, would be helpful. Chromosome counts appear to be promising in the study of the endemic (new) species in Australia. The material should be sent direct to Dr. Lack, or to Herbarium Australiense, P.O. Box 1600, Canberra, 2601, for forwarding.

## AUSTRALIAN CULTIVAR REGISTRATION AUTHORITY

### - A Report on its Activities and History

David Young

As early as December 1958 it was suggested by the Secretary of the International Commission for the Nomenclature of Cultivated Plants, Dr. H.R. Fletcher, that the Society for Growing Australian Plants (SGAP) should act as a National Registration Authority for cultivars of genera endemic to Australia.

However it was not until 1962 that the Australian Cultivar Registration Authority (ACRA) was formed. The Authority was made up of members from SGAP and from the Royal Botanic Gardens and National Herbarium in Melbourne.

The Authority functioned with varying degrees of success over the next few years.

In May 1970, the Director of City Parks in Canberra, Mr. D.W. Shoobridge, indicated that as a major part of the Canberra Botanic Gardens plant development and research programme was to be concerned with plant breeding, it would be advantageous for the Gardens to have representation on ACRA.

Accordingly after approaching the remaining members in Melbourne they agreed that Canberra Botanic Gardens should be represented on the Authority by Mr. J.W. Wrigley. At the same time the membership of the Authority was enlarged to include the SGAP at the Federal level by the acceptance of Mr. W.H. Payne as a member.

At a meeting of the Authority on 4th May 1973 at the National Herbarium, Melbourne, it was decided that the Authority should be relocated in Canberra and its membership increased to give the Authority a broader and more representative base.

Canberra Botanic Gardens is vitally concerned with the cultivation and horticultural improvement of Australian native plants and in early 1974 a Technical Officer, David Young, was appointed to look after cultivars as part of his duties. For this reason it was logical to base the Authority in Canberra.

The Botanic Gardens in Sydney, Perth, Adelaide, Brisbane and Cairns were asked to nominate a member as was the Federation of Australian Nurserymen's Association (FANA). Nominations were received from Sydney, Perth, Adelaide and the FANA while Brisbane and Cairns declined representation because of distances and financial problems of getting their nominees to Canberra for meetings. They indicated however an eager willingness to cooperate with and help the Authority in any way possible and wished to be kept informed of the Authority's activities.

During February 1974, Mr. A. Court, who was a member of the Authority in Melbourne, took up duties as Officer-in-Charge of the new Herbarium within the Canberra Botanic Gardens. This meant that there was a nucleus of ACRA members in Canberra.

The new and enlarged Authority met in Canberra on 31 May 1974.

The Australian Cultivar Registration Authority is recognised by the International Commission for the Nomenclature of Cultivated Plants of the IUBS.

At present the Authority has a representative(s) from the following institutions: Society for Growing Australian Plants (Federal); Botanic Garden and State Herbarium, Adelaide, S.A.; Royal Botanic Gardens and National Herbarium, Melbourne, Vic.; Kings Park and Botanic Garden, Perth, W.A.; Royal Botanic Gardens and National Herbarium, Sydney, N.S.W.; Federation of Australian Nurserymen's Associations; Botanic Gardens, Canberra, A.C.T.; Royal Botanic Gardens, Hobart, Tas.; Townsville Botanic Gardens, Qld.; Darwin Botanic Gardens, N.T. The other representatives are Mr. A. Hargrave (SGAP, Victorian Region) and Dr. J.H. Willis, formerly Senior Botanist, Melbourne.

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*I'm pleased at the response to my request for articles for the newsletter. Any author who does not see his contribution in this issue can be sure it will be in the next. Please keep up the supply. - Ed.*

*Any member whose 1975 subscription is in arrears is reminded that payment was due on 1st January last. The Treasurer, Mike Lazarides (address on page one), would be pleased to receive your cheque. The Society needs funds to function efficiently. The executive has endeavoured to keep all costs at a minimum. - Ed.*

## THE JOHN RAY HERBARIUM, UNIVERSITY OF SYDNEY

Roger C. Carolin

The John Ray Herbarium of the University of Sydney was started by the first professor of Botany at that University, Professor A.A. Lawson, about 1920. A handsome hammer-beam, chapel-like building was completed in 1923 which housed the Herbarium on a mezzanine floor and the now defunct Bentham and Hooker Botanical Museum at ground level. The Museum was used for a classroom for some time following World War II but eventually the Herbarium was moved onto the ground floor and the mezzanine extended to house first the library and now an audio-visual teaching unit.

The Herbarium was at first kept in blue cloth-bound boxes themselves lodged in some fine maple cabinets about 3 m tall with moulded swing doors. The specimens, true to the Kew tradition, were mounted on azure blue paper. Over the years rising costs and confined space have altered all this and the specimens are now mounted on an offset litho paper in leatherboard boxes and contained in a compactus unit. About 1956 the old gummed linen strips were discarded in favour of a plastic mounting medium and last year the lack of one of the ingredients of this medium has induced us to experiment with various adhesive tapes.

For many years Obed Evans was curator of the Herbarium as well as chief laboratory assistant in the Botany Department. He went to considerable effort to increase the collection and although it was considered primarily as a teaching unit there are some important collections in it from this time. A very extensive sample of R.H. Cabbage's collection was obtained, not all numbers of which appear to be represented in NSW. Collections made during the ecological work of Petrie, McLuckie, Lawson, Vickery, Fraser, Pidgeon, etc. are all lodged here, many of which are not represented elsewhere and, in a sense, represent vouchers for this work.

In 1955 R.C. Carolin was appointed curator and lecturer in Botany. O.D. Evans retired in 1952 and in 1962 the Botany Department was absorbed into the School of Biological Sciences. An attempt is now made to lodge vouchers when significant, for all research done in the Department, in the Herbarium. Thus there are vouchers for much of the work of Smith-White and his students, although their earlier work up to about 1960 is undocumented, and for the various taxonomic treatments that have appeared from the Department or School.

It has also been the practice to extend the use of the Herbarium as a post-graduate teaching unit in taxonomy, ecology, and cytology and to reduce its undergraduate use.

The collection is thus not now restricted to New South Wales but contains considerable representation from other states, especially in certain groups. Holotypes are not retained but lodged in NSW. The Herbarium contains about 30,000 specimens and there is considerable room for expansion.



Important collections in the Herbarium include: McLuckie and Petrie (Kosciusko, Mt. Wilson); Fraser and Vickery (Barrington Tops); Pidgeon (Central Coast, N.S.W.); McKee (early numbers); Cambage; Adelaide Chapman (Central Coast); Evans; Smith-White; Carolin; Barolow (*Casuarina*); James (*Lobeliaceae*); Peacock (*Goodeniaceae*); Beadle (Western Plains, N.S.W.); Jancey (*Phyllota*); Hewson (*Aneuraceae*); Na-Thalang (*Riccia*); Jacobs (*Triodia*).

Apart from the Curator, Associate Professor R.C. Carolin, the Herbarium has no staff; the University provides \$600 per year for casual workers and the Curator has a personal technical assistant for research work, also paid for by the University.

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#### LOCAL CHAPTER CONVENERS - PLEASE NOTE

At the meeting of the Council of ASBS held in Canberra in January last it was decided that Local Chapters be asked to discuss and comment to Council on any matters of interest raised in the newsletter. Any Council member (see page 1) will accept comments or resolutions for consideration by the full Council.

#### MEMBERS - PLEASE NOTE

*On this same subject I would welcome from individuals comments which can be included in the newsletter under the heading "Letters to the Editor". - Ed.*

NOTES FROM COUNCIL MEETING HELD IN CANBERRA, 12 MAY 1975

Present: Lazarides, Wilson, George, Armstrong. Apologies: Whiffin, Henderson.

1. The Secretary has accepted the quotation of Science House Pty. Ltd. for printing and distribution of future issues of the newsletter. (*Members please keep the Secretary informed of any change of address so your newsletter doesn't go astray. - Ed.*)
2. The matter of updating and enlarging the "Report on Current Taxonomic Research in Australia" previously prepared by the Heads of Herbaria was considered. The meeting decided to run a questionnaire in the next newsletter. (*Following a reply from the current Chairman of the Heads of Herbaria, the President asked that the questionnaire be held over pending a fuller consideration of the matter by Council. - Ed.*)
3. The meeting agreed that the Society should have distinctive letterhead writing paper. The Secretary will arrange for some designs for consideration by Council.
4. A note is to be sent for publication in Taxon to the effect that overseas institutional membership in ASBS is available for the equivalent of US\$5 in 1975 or US\$8 from 1976 onwards.
5. Some back issues of the ASBS newsletter are available to members with special reasons for wanting them. (*Such members should write to the Secretary stating the reasons. If demand proves too great this offer will not last long. - Ed.*)
6. The subject of arranging accommodation for visitors was considered. While Council decided it was not its function to do this it could help by:
  - (a) including a category in the questionnaire to be run in the next newsletter to ascertain members willing and able to accommodate visitors or willing to arrange accommodation for visitors. (*This is delayed in line with item 2 above. - Ed.*)
  - (b) insert a note in the next newsletter asking convenors of local groups to compile a list of local members willing and able to accommodate or arrange accommodation for visitors. Persons seeking accommodation should write to the Secretary for convenors' names and addresses. (*Convenors of local chapters or branches please note. - Ed.*)
7. The next ANZAAS Congress is to be held in Hobart, Tasmania, in May 1976. (*For overseas members, ANZAAS is the Australian and New Zealand Association for the Advancement of Science. - Ed.*)

## CHAPTER NEWS

### CANBERRA

#### New office bearers

- Chairman: Mr. George Chippendale, Forestry Research Institute  
(CSIRO Division of Forest Research as from 1 July).
- Secretary: Mr. Roy Pullen, Herbarium Australiense, CSIRO Division  
of Plant Industry.
- Committee: Mr. Arthur Chapman, Academy of Science Flora of Australia  
Committee, c/o Herbarium Australiense, CSIRO.

#### Meetings

- 27 May 1975 Mr. L. Adams - "The genus *Solenogyne*".
- 24 June 1975 Prof. and Mrs. D.J. Carr - "History of Eucalypt  
taxonomy".
- 29 July 1975 CSIRO Division of Plant Industry Lecture Theatre:  
Dr. Jack Elix - "Taxonomy of lichens".

Roy Pullen  
Secretary  
P.O.Box 1600, Canberra 2601.

### SYDNEY

- 12 March 1975 Mr. John Pickard, Ecologist, Royal Botanic Gardens,  
Sydney - "The palaeoclimate of Lord Howe Island".
- 9 April 1975 Dr. Peter Valder, Senior Lecturer in the School of  
Biological Sciences, Sydney - "Plant hunting in  
South-East Asia".
- 11 June 1975 Mr. Finn Thorvaldson, Lecturer in Landscape Archi-  
tecture, University of N.S.W. - "Landscape character  
analysis, some visual design principles. Illustrated  
by regional landscapes".
- 7 July 1975 Mr. E. Charles Nelson, Department of Biogeography and  
Geomorphology, A.N.U. - "*Adenanthos* (Proteaceae) a  
conspectus - its taxonomy and distribution, its  
ecology and evolution".

9 July 1975      Mr. Ken Bamber, Division of Wood Technology,  
Forestry Commission of N.S.W. - "Wood and bark anatomy  
- their usefulness in plant taxonomy".

Programme for the rest of the year

13 August 1975      Mr. Bruce Loder, Chief Design Officer, National Parks  
and Wildlife Service - "Landscape considerations in  
National Parks".

15 August 1975      Dr. Mike Dale, CSIRO Division of Tropical Agronomy,  
St. Lucia, Queensland - "Unmuzzling taxonomy".

late September  
1975      It is hoped that an informal weekend's activities  
can be arranged at Wirrimbirra Sanctuary, Bargo.

8 October 1975      Mr. John Walker, Biological and Chemical Research  
Institute, Rydalmere - "Relationship of fungi to the  
taxonomy and distribution of flowering plants".

12 November 1975      Dr. John Harrop, Lecturer in Zoology, University of  
N.S.W. - "Animal biogeography".

10 December 1975      Dr. Wee-Lek Chew, Botanist, Royal Botanic Gardens,  
Sydney - "Plant biogeography".

Peter Wilson  
Convenor  
University of N.S.W.  
P.O. Box 1, Kensington, 2033.

MELBOURNE

The first meeting was held in conjunction with the Victorian  
Universities Botany Club. Guest speaker was Dr. Elizabeth Percival,  
Department of Chemistry, Royal Holloway College, University of London,  
who spoke on "Carbohydrates of algae as a guide to taxonomy".

Dr. J.M. Willis spoke at the second meeting on "Botanical facets  
of N.W. Australia". The talk was illustrated with slides from his  
recent visit to this region.

At the June meeting, Miss Helen Aston spoke on "The role of  
Botanical Liaison Officer at Kew Herbarium", and naturally Kew Gardens  
provided the setting for some attractive slides.

Dr. Ian Staff will speak on the Xanthorrhoeaceae at La Trobe  
University on Tuesday 5 August 1975.

Gretna Weste  
Convenor  
University of Melbourne,  
Parkville, 3052.



ADELAIDE

We were fortunate in having two interstate speakers during March and I would like to express our thanks to Dr. N.T. Burbidge and Mr. P.G. Wilson for affording us some of their valuable time on their brief visits to Adelaide. Our thanks are also extended to the other speakers.

- 5 March 1975      An informal evening was held for members to meet Dr. J.P. Jessop, who had recently taken up the appointment as Chief Botanist at AD.
- 20 March 1975      "Some problems in the Australian Chenopodiaceae". Mr. P.G. Wilson.
- 26 March 1975      "The proposed Flora Australiensis". Dr. N.T. Burbidge.
- 30 April 1975      "The scanning electron microscope". This meeting took the form of a short lecture by Dr. C. Bartussek on the function of the SEM followed by a practical demonstration of the machine by Mr. C. Marsden.
- 28 May 1975      "Systematic and (or) biochemical relationships between food plants of insects and related taxa and their importance in the evolution of host plant selection". Dr. J.J. Sevent-Ivany.
- 29 June 1975      Cryptogam excursion to the Mount Lofty Ranges to study Lichens, bryophytes and pteridophytes.

Proposed programme for the rest of the year

- Wednesday, 30 July 1975      "Australian fossil conifers". Dr. D. Cristophel, Botany Department, University of Adelaide.
- Wednesday, 27 August 1975      "Evolution of host mimicry in Australian Loranthaceae". Dr. B.A. Barlow, Department of Biological Sciences, Flinders University.
- Wednesday, 24 September 1975      "Cannabis L. - has the taxonomy of the genus gone to pot? A discussion of the recent taxonomic controversies on this genus and the implications of these in relation to the law." Mr. R.H. Kuchel, Assistant Director, Botanic Garden, Adelaide.
- Wednesday, 29 October 1975      Annual Meeting and election of convenor. After formal business, it is intended that a recently published taxonomic paper will be presented and discussed. The paper to be discussed will be circulated at the September meeting to enable all members to read it beforehand.

Wednesday, 26 November 1975 "Synoptic or Analytic keys - a choice rarely considered". Mr. L. Haegi, Agronomy Department, Waite Agricultural Research Institute.

R.J. Chinnock  
Convenor  
Botanic Garden,  
North Terrace, Adelaide 5000

BRISBANE

The chapter has held two meetings since the last report:

- 8 April 1975 Mr. David Ryde, Science Director of the Interim Council of ABRS, delivered a few informal words for the enlightenment of members on the aims of the Study and grants allocated under the Study. Members then heard of overseas herbaria from Les Pedley (European), Bob Johnson (Central-East Coast USA), Sel Everist (West Coast USA, Hawaiian) and Bryan Simon (European, Rhodesian, South African).
- 10 June 1975 "To eat or not to eat - the phylogenetic paradox". Sel Everist and Alan and Joan Cribb showed that indiscriminately eating plants is fraught with danger. The most eaten families are also the most poisonous.

Programme for the rest of the year

- 5 August 1975 "Some aspects of current botanical research in the Botany Department of Queensland University". Some of Dr. T. Clifford's post-graduate students. (Includes a display of relevant objects.)
- 28 October 1975 "History and Taxonomy of Agarics in Queensland". Dr. J. Aberdeen, Plant Pathology Branch, Queensland Department of Primary Industries, Brisbane.

Queensland members have made the following field trips:

John McDonald has recently completed a collecting trip to coastal Queensland as far north as Cape Flattery, north of Cooktown. Though mainly on an ecological survey John collected a large number of mainly beach-front plants.

Norm Byrnes very recently has botanised generally on the Sandstone areas about Laura and on Lizard Island.

Bryan Simon has sampled the grasses of Eastern Queensland in a traverse from Brisbane to Cairns, Hughenden, Aramac, Blackall, Charleville and back to Brisbane. John Clarkson accompanied Bryan on the western section and collected Eucalypts.

Bronwyn Ashley, Cheryl Scarlett and Philip Sharpe have botanised coastal Queensland up to Cooktown and out to Chillagoe on a search for species of Cyperaceae.

David Hassall has been west to Birdsville collection cytological material of *Euphorbia*.

Trevor Clifford collected Cycads in the Rockhampton area recently.

*(Have you been on a profitable field trip recently? We'd like to hear about it. Short reports for the newsletter would be most suitable. - Ed.)*

The Brisbane chapter has decided to keep minutes of its meetings. We would be pleased to send copies to any interested ASBS members. Other chapters may decide to follow suit - perhaps records in precis form could be offered to the editor as articles for the newsletter.

Rod Henderson  
for the Committee

#### PERTH

The Committee elected for 1975 is:

Convenor: Neville Marchant.  
Secretary: Nathan Sammy  
Committee Member: Greg Keighery

#### PAPUA NEW GUINEA BOTANICAL SOCIETY

Our Papua New Guinea correspondents provide us with the following information on botanical activities within that tropical paradise.

1. It is hoped to congregate as many botanically-interested people as possible in Lae on 28-29 September for a discussion weekend. This is the result of an informal meeting of botanists from Bulolo, Lae, Port Moresby and Wau on 18 June in Lae, when the PNG Botanical Society was formed. The Society is intended initially to have a very informal basis, being constituted as an excuse for the widely-scattered botanically-interested to get together. It emanated from moves to form a PNG chapter of ASBS. It was decided at the meeting that a society based on somewhat

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broader axioms would have a wider appeal while still realising the aims of a local chapter. It is envisaged that 6-8 papers will be given at the weekend. Any enquiries may be addressed to the Secretary-Convenor, Bill Barker, National Herbarium, P.O. Box 314, Lae, PNG.

2. Mr. John Womersley, Head of the PNG National Herbarium left in early June on 4 months leave overseas. During this time he will visit Moscow and Leningrad for the two Botanical Congresses.

3. In March Don Foreman farewelled the National Herbarium at the end of his 6 year contract to take up a post as a tutor in Botany at the University of New England. He was last heard of adding the finishing touches to his M.Sc. thesis on PNG Proteaceae.

4. David Frodin departed for 6 months study leave from the University of Papua New Guinea, Port Moresby, at the end of June and will also be attending the Leningrad congress.

5. In the recent Queen's Birthday Honours list, Mrs. Andree Millar was awarded an O.B.E. for her contributions to PNG horticulture and botany - a fitting reward for her tireless work in these fields.

6. An expedition into the remote Star Mountains region has just been completed. Botanical collections from the area have been few prior to this 10 week joint National Herbarium, Lae-Rijksherbarium, Leiden, venture. The nearest comparatively well-botanised mountain regions are Mt. Wilhelmina in Irian Jaya, about 250 km to the west, and Mt. Giliwe in the central PNG highlands, about 450 km to the east. Drs. J. Veldkamp (Gramineae and Cyperaceae) and A. Touw (mosses) were the two Leiden representatives, while the botanists from Lae were Jim Croft (expedition leader) and Bill Barker. They were supported in the field by four local forestry officers from Lae and a 3-man radio team from the PNG Defence Forces. Geoff Hope of the Department of Biogeography and Geomorphology, A.N.U., also spent several weeks in the area, among other things drilling holes in bogs !, and will write the ecological account of the region. Collections totalled about 2,500 flowering plants and ferns and possibly as many as 3,000 bryophytes.

Bill Barker  
Secretary-Convenor



M E M B E R S H I P

Membership in the Australian Systematic Botany Society is open to all those interested in plant Systematics. This includes persons overseas and also overseas institutions. Membership can be effected by mailing the attached form or by sending relevant information to the Treasurer at the address given on page one, together with proper fees for the current year.

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I wish to become a member of the Australian Systematic Botany Society. I enclose remittance of \$\_\_\_\_, being the subscription for the current year.

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Address: .....

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Address for newsletter .....

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Fees: Australia and Papua New Guinea A\$3 (1975); A\$4 (1976).

Elsewhere US\$5 or equivalent (1975); US\$8 or equivalent (1976).

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